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## (54) METHOD FOR DESIGNING INJECTION MOLDING DIE

## (57) Abstract:

**PURPOSE:** To make pressurized fluid enter in balance by keeping flow balance by adjusting a thick wall part installed to support the flow in a thin wall part and loading simultaneously.

**CONSTITUTION:** A pressure loss in the flow of a resin is obtained using a difference calculus, a finite element method, etc., the sizes of a thin wall part and a thick wall part are determined near the boundary between a region in which the obtained pressure loss is inversely proportional to the product of the water force corresponding diameter of the thick wall part and that of the thin wall part and a region in which the pressure loss is not inversely proportional to the product, and to a shape which is formed only by the thin wall part, the thick wall part is formed from a gate to the final loading position obtained by flow analysis (step S1-S4). Next, a branch thick wall part is formed from a branch point predetermined previously in the thick wall part toward the periphery of a molded article (step S6), and the water force corresponding diameter of the branch thick wall part

is obtained to be equal to the ratio between the length from the branch point to the final loading position of the thick wall part and the water force corresponding diameter (step 7). When there is more than one branch point, a process from step 6-step 10 is repeated to form all branch thick wall parts.

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